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June 29, 1992

**BY MESSENGER**

Ms. Donna R. Searcy  
Secretary  
Federal Communications Commission  
1919 M Street, NW, Room 222  
Washington, DC 20554

ORIGINAL  
FILE

Federal Communications Commission  
Office of the Secretary

ORIGINAL  
FILE

RECEIVED

JUN 29 1992

**Re: ET Docket No. 92-100/Metriplex, Inc.**  
**Petition for Award of Pioneer's Preference.**

Dear Ms. Searcy:

On behalf of Metriplex, Inc., enclosed please find the "Reply Comments of Metriplex, Inc." in ET Docket No. 92-100, in accordance with the requirements established in FCC Public Notice DA92-712, dated June 4, 1992. A facsimile copy of the declaration page, containing the signature of Steven Stutman, the President of Metriplex, is attached to the original document. The original signature is being delivered by overnight courier and will be filed with the Commission tomorrow.

All inquiries concerning this Petition may be addressed to this office or to Steve Stutman, President of Metriplex, at its offices at 25 First Street, Cambridge, Massachusetts 02141. Thank you for your assistance in expediting the association of this filing with the appropriate docket files.

Yours very sincerely,

  
Lawrence J. Movshin

LJM/att  
Enclosures

cc: Steve Stutman  
Rodney Small (w/enc)  
Carl Huie (w/enc)

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List A B C D E

Before The  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

RECEIVED

JUN 29 1992

FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

In the Matter of	)	ET Docket No. 92-100
	)	
Requests For Pioneer's Preference	)	PP-35, PP-37, PP-38,
to Provide Data or Paging Services	)	PP-39, PP-79, PP-80,
at Frequencies in the 930-931 MHz	)	PP-81, PP-82, PP-83,
Paging Reserve Band	)	PP-84, PP-85
	)	

REPLY COMMENTS OF METRIPLEX, INC.

Steve Stutman  
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June 29, 1992

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### SUMMARY

Contrary to the comments and Oppositions filed by other parties in this proceeding, Metriplex has demonstrated its qualifications for a Pioneer's Preference for its development of a High Speed, Hybrid Data Network with Acknowledgment Paging ("HDNAP") that is designed to operate in the 930-931 Paging Reserve Band.

Metriplex's request satisfies the criteria necessary for a preference award because its HDNAP innovation leads to a substantial enhancement of existing paging services that will provide added functionality to a broader group of potential paging customers. Since 1986 Metriplex has relied primarily on direct customer feed back from the thousands of users of its software, information services and products to guide it in the definition, provision and advancement of HDNAP.

Metriplex's Pioneer Request satisfies the technical requirements of a pioneer's preference award. HDNAP is a significant technical innovation that will offer quality high speed data transmission at a reasonable price. Metriplex's Pioneer Request demonstrates a number of spectrum efficiencies, including the acknowledgment that a page is received and increased speed in the transmission of information. Metriplex's HDNAP acknowledgment ("ack") function also offers an immediate and significant increase in the quality of information transfers by confirming that a page has been received. The proposed HDNAP service also offers significant "opportunity cost" savings to both service providers and customers.

Before The  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554

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In the Matter of	)	ET Docket No. 92-100
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at Frequencies in the 930-931 MHz	)	PP-81, PP-82, PP-83,
Paging Reserve Band	)	PP-84, PP-85
	)	

**REPLY COMMENTS OF METRIPLEX, INC.**

Metriplex, Inc. ("Metriplex"), by its attorneys, respectfully submits these reply comments in response to the comments and oppositions filed in this proceeding by Mobile Telecommunications Technologies Corporation ("Mtel"), PageMart, Inc. ("PageMart"), Dial Page, L.P. ("Dial Page") and Paging Network, Inc. ("PageNet"). As discussed below, and contrary to the comments and oppositions of the parties, Metriplex has demonstrated its qualifications for a pioneer's preference in this proceeding for its development of a High Speed, Hybrid Data Network with Acknowledgment Paging ("HDNAP") that is designed to operate in the 930-931 MHz Paging Reserve Band.

**I. INTRODUCTION**

As Metriplex demonstrated in its Request for Pioneer's Preference filed June 1, 1992, (hereinafter "Preference Request") the company has pioneered the concepts of information services and data delivery via alphanumeric paging, also known as

"wireless computing", and has integrated innovations with pioneering concepts in so-called acknowledgment paging.<sup>1/</sup>

As demonstrated in its original request, Metriplex is a successful hardware, software and paging service provider that has pioneered data and telemetry transmission on paging channels. Metriplex is unique, because unlike many of its critics and many of the other Pioneer's Preference petitioners, Metriplex has pioneered actual services to the public, not just proposals. Metriplex manufactures software and hardware, as well as providing service to the public through the GLOBAL24® network. All of Metriplex's business involves the transmission of data and alphanumeric messaging. This has been true since the company's founding in 1986. This is not true of many of those companies critical of the Metriplex proposal, many of whose primary business is numeric "beeping".

While the proposals of Metriplex's opponents assume a level of hardware compatibility and commercial interoperability which does not exist in the paging industry<sup>2/</sup>, Metriplex, in fact, maintains a large network with continuous operation and has extensive experience in the networking together of various

---

<sup>1/</sup> Last week the New York Times published an article about Metriplex's efforts involving Hewlett-Packard's HP-95LX palmtop computer. See copy attached. Metriplex is currently working with manufacturers of palmtop personal computers to develop wireless computing applications which incorporate acknowledgment paging.

<sup>2/</sup> For example, the necessary interoperability implied in the Dial-Page proposal is mere speculation.

carriers. The HDNAP system that Metriplex has developed is a necessary and logical outgrowth of its current data transmission services. Metriplex's proposed service utilizes system control and message input software developed by Metriplex, as well as Metriplex manufactured interface hardware. By communicating with its existing data customers and by conducting extensive laboratory testing of its prototype unit, Metriplex has demonstrated that HDNAP is a technically feasible innovation that is supported by the real-world demand of a highly sophisticated user base of paging-technology consumers. As demonstrated herein Metriplex's pioneer preference request satisfies the Commission criteria necessary for a preference award.

## **II. METRIPLEX'S REQUEST SATISFIES THE CRITERIA NECESSARY FOR A PREFERENCE AWARD**

The Commission will award a Pioneer's Preference to an entity that demonstrates it has developed an innovation that "leads to the establishment of a communications service not currently provided or a substantial enhancement to an existing service." Report and Order, Establishment of Procedures to Provide a Preference to Applicants Proposing an Allocation for New Services, 6 FCC Rcd. 3488 (1991) ("R&O"). The Commission has determined that examples of a new or enhanced service might include an added functionality provided to a broader group of customers than was previously available or a new technology that permits: (1) a new use of the spectrum; (2) changes in the operating or technical characteristics of a service; (3) an increase in spectrum efficiency; (4) increased speed in the

transmission of information; (5) an increase in the quality of information transfer; and (6) a significant reduction in cost. *Id.* at 3494. At the same time the Commission has admonished applicants that they have a significant burden to persuade the Commission that [a] proposal has sufficient merit." *Id.* Contrary to those naysayers who would oppose its request, Metriplex **has** met that burden. Indeed, the new service that Metriplex has developed fulfills a number of the characteristics that are set forth in the examples described by the Commission in the R&O.<sup>3/</sup>

A. HDNAP Provides Added Functionality To a Broader Group of Potential Paging Customers.

Metriplex has demonstrated that HDNAP is an innovative new service that provides added functionality to existing paging services that can be provided to a broader group of customers. In its Preference Request Metriplex explained that its proposal is the result of requests that Metriplex has received from customers since 1986. These customers, primarily in the industrial, medical and emergency response fields, have asked for a means of obtaining positive assurance that the paging messages they had sent were, in fact, received. HDNAP will provide that service to those customers **and** it will also provide service to

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<sup>3/</sup> Mtel opposes Metriplex's request claiming that a two-way acknowledgment capability cannot be considered a substantial enhancement. Mtel Opposition at 5. This is hard to understand since despite some technical differences, Mtel's proposal would, if its many technical difficulties could be economically solved, provide somewhat similar service.



many customers in those fields who have not yet utilized paging services because of its limited one-way capability.<sup>4/</sup> Moreover, in response to those commenters who have questioned the technical viability of such an offering, it should be emphasized that Metriplex's HDNAP will provide handling of the acknowledgment message using software products and interface products **developed by Metriplex** which have already been proven in the field or which are now undergoing testing.

Mtel opposes Metriplex's Preference Request alleging that Metriplex has offered no "demand estimates" for HDNAP. Mtel Opposition at 5. It cannot be denied that Metriplex, being an entrepreneurial enterprise, does not have the same number of pollsters or consultants engaged in market studies or focus groups. Metriplex freely admits that it has not retained any expensive management consulting firms to theorize as to needs of customers, nor to prepare technical proposals. On the other hand, the HDNAP proposal is born of, in Metriplex' mind, far more relevant demand data: rather than do hypothetical statistical analyses, Metriplex has relied primarily on direct customer feed back from thousands of users of Metriplex software and information services and products, and **it has designed a service intended to address the demands of these paging subscribers.** This feed back has guided the company in the definition,

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<sup>4/</sup> Even one of Metriplex's opponents, PageNet, admits that Metriplex's request provides added functionality which will add value for users. See PageNet Opposition at 17.

provision and advancement of HDNAP and its other services and products. Metriplex prefers to listen to its customers, believing that they are more representative of the needs of the public. Metriplex submits that this customer feedback represents the most reliable "demand estimate" data of any that has been placed on file in this proceeding.

B. HDNAP is a Significant Technical  
Innovation That Will Offer Quality High  
Speed Data Transmission At A Reasonable Price.

Metriplex's request also clearly satisfies the technical requirements necessary to merit a pioneer's preference award. With its HDNAP innovation, Metriplex has brought the capabilities and possibilities of the use of the Reserve Paging Band to "a more advanced and effective state." See, R&O at 3494. HDNAP offers a new use of the spectrum, by offering the "ack" transmission and the availability of data and telemetry services.<sup>5/</sup>

In its Preference Request, Metriplex offered an extensive discussion regarding the change in the operating and technical characteristics of the one-way paging service to accommodate HDNAP. Metriplex Request at 9-13 and 20-21. While Metriplex's proposal demonstrates a number of spectrum efficiencies, including the assurance by acknowledgment that

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<sup>5/</sup> Despite claims by PageNet to the contrary (PageNet Opposition at 17), Metriplex is not aware of the offer of telemetry paging services to any significant degree on any commercial basis in the nation, although such operations are permitted by the Commission's rules in other radio services.

pages are received, it also offers increased speed in the transmission of information. The increased speed is not achieved simply by the transmission rate of the service, but also through the efficient exchange of information between sender and receiver with less chance of signal loss.<sup>6/</sup>

PageNet's primary objections to Metriplex's Pioneer Request seem to be that there are other proposals which claim higher data rates. PageNet Opposition at 18. PageNet claims that the proposed transmission speed of 2400 bps for HDNAP is "primitive" in that it is no faster than that utilized by conventional paging systems and is slower than the 6250 bps utilized by ERMES. Id. Unfortunately, PageNet's assertions ignore the economic realities of the paging marketplace, and indeed evidence some lack of practical experience in the real world of RF.

PageNet seems to equate "novelty" with "higher data rates". But there must be some practical ability to implement new ideas before they can be adopted, and simply wishing that higher data rates will be possible does not make them happen, nor does it make such unrealistic requests more "novel" than those that have some technical practicability. For example, it is clear that the ERMES standard is an interesting approach; indeed,

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<sup>6/</sup> In fact, many customers compliment Metriplex on reliability as well as innovation. As stated herein, all of Metriplex's customers receive alphanumeric data and/or messaging. This data is very important to our customers and Metriplex considers their data reliable delivery to be critical component of its service.

if someone begins manufacturing receivers which will decode ERMES at a reasonable price -- something that has not happened to date notwithstanding the existence of the standard for some time -- ERMES might even make it into the marketplace someday. But Metriplex has conducted laboratory experiments with data transfer rates in the Megabit range, and it is simply not feasible to believe that these rates can be economically put into public use at the present time.

In order to overcome loss of data transmission and significant error rates that are prevalent for high speed data in urban environments, base transmitters will have to be placed in close proximity over a wide area to overcome existing signal to noise ratios<sup>2/</sup>. Few companies, (and, it should be noted, none of those participating in this proceeding) have demonstrated the financial interest or ability to undertake the intensive capital investments required for such a venture. Moreover, the costs of such services to consumers would be large.

On the other hand, HDNAP offers increased quality of information transfer at significant cost reductions. The "ack"

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<sup>2/</sup> At a recent Telocator technical panel (April 1992) "Paging Links to Portable Computers" chaired by Steven Stutman, president of Metriplex, a questioner asked what the panel and audience thought of recent experiments conducted by various parties as to the feasibility of paging at increased data rates. A number of industry technical personnel commented, that while field experiments in rural areas with flat terrain and little radio absorptive vegetation might give some interesting results, it was extremely unlikely that these results would have much bearing, or could be extrapolated to dense urban RF environments.

concept offers an immediate and significant increase in the quality of information transfers by confirming that a page has been received. PageMart complains that the information to be sent through the "ack", i.e., yes/no/send again, will not be sufficient to meet the consumers' demand for information flow. But HDNAP is capable of expansion to include more information if the customer demand for additional acknowledgment information is established. It is the service concept, and not these implementation details, that warrant the adoption of the proposed rules to accommodate such concepts and the award of a Pioneer's Preference. Moreover, the HDNAP service offers significant "opportunity cost" savings to both service providers and customers. See Metriplex Request at 14-15.

In its Opposition Mtel discusses the "overwhelming prevalence of numeric pagers"<sup>8/</sup>; implying that customers will not want to pay an additional price for HDNAP equipment and service. Mtel Opposition at 5. This is one area where Metriplex is quite confident of the merits of its approach, and indeed only further evidences the substantial lead that Metriplex enjoys in the development of a SERVICE as opposed to a PROPOSAL. As the growth of its existing enhanced paging applications more than adequately demonstrates, Metriplex' customers have already shown their complete willingness to purchase new, more advanced alpha pagers

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<sup>8/</sup> Presumably this is true on Mtel's paging systems. Metriplex's customers, however, are exclusively for alphanumeric data and messaging.

to replace older less sophisticated paging devices. They have also demonstrated in the marketplace their willingness to invest in new Metriplex data products, such as the "DataPulse" palmtop computer/data receiver unit. Mtel's argument is helpful in highlighting the importance difference between its approach and the approach that Metriplex brings to this proceeding on Advanced Messaging: Metriplex is addressing a market segment which recognizes the need for new, advanced portable data systems, while Mtel's customers appear to be traditional "beeper" customers.<sup>9/</sup> Mtel's lack of experience in advanced data information systems should not discredit Metriplex's qualifications to receive a Pioneer's Preference for its HDNAP innovation.

### III. CONCLUSION

While there are merits to a variety of alternatives proposed in this proceeding, one thing has been made clear by the pleadings on the various Pioneer's Preference requests. Unlike virtually any other proposal pending in this proceeding, the Metriplex proposal will provide a new and innovative class of

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<sup>9/</sup> Metriplex believes that almost by definition, new equipment will be required to implement substantially new classes of service, such as are contemplated in the current proceedings for the 930-931 MHz band. Metriplex questions PageMart's assertion that a service has been developed using a PCMCIA card. The world's leading manufacturers of personal communication equipment have told Metriplex directly that they are quite concerned about RF effects such as shielding and computer generated RFI interfering with proper operation of an internally mounted receiver, even if an external antenna is used.

personal communication service that meets a currently unfilled need at a reasonable cost. Few other parties in this proceeding have substantive experience with the type of data and messaging services offered by Metriplex and currently proposed to the Commission.

The Commission's Pioneer's Preference is designed to award innovators who advance technology and create new service offerings tantamount to a "new generation" of technology. Metriplex has proposed an innovative, spectrally efficient service which creates a new generation of paging service and satisfies the appropriate Pioneer Preference criteria. Consequently, Metriplex respectfully requests that the Commission adopt rules necessary to accommodate the proposed HDNAP service as outlined in its Pioneer's Preference request, and grant to Metriplex a Pioneer's Preference for one of the nationwide licenses so created in this proceeding.

Respectfully submitted,

METRIPLEX, INC.

By: 

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Robert L. Hoggarth  
Thelen, Marrin, Johnson  
& Bridges  
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June 29, 1992

Its Attorneys

named Richard Webb in  
tion of deputy chief  
North America.

**BRANIFF INTERNATIONAL**  
Irving, Tex., named  
chief executive, presi-  
tor.

**IMO INDUSTRIES**, Lawrenceville, N.J.,  
a supplier of analytical and optical  
instruments, named William M.  
Brown executive vice president and  
chief financial officer.

THE NEW YORK TIMES, WEDNESDAY, JUNE 24, 1992

**RAMTRON INTERNATIONAL CORP.**, Col-  
orado Springs, a unit of Ramtron  
Holdings Ltd., appointed L. David  
Sikes president and chief operating  
officer.

board. Mr. Liebhaber has been  
MCI's chief strategy and tech-  
nology officer.

owned by the Canadian parent  
in turn is owned by the family.  
Thus, Canadian creditor  
thought last week that they  
get as much as 64 percent  
American operations could  
less depending on how mu-  
stake it took to attract a deep  
ed suitor.

The company recently ne-  
with the City of New York to

## BUSINESS TECHNOLOGY

### Quotes on the Go for Dozens of Markets

Metriplex, a Cambridge, Mass.,  
start-up company, has introduced  
what it says is the world's first  
pocket-sized wireless data system  
designed to permit currency, bond  
and futures traders to get instan-  
taneous updates on more than 50  
markets at once.

The system, which is called Da-  
tapulse and was introduced yester-  
day, integrates Hewlett-Packard's  
HP-95LX palmtop computer, a Mo-  
torola Newstream wireless receiver  
and Metriplex's software and  
digital information into a single  
package that permits traders to re-  
ceive information 24 hours a day in  
many urban areas.

The system permits users to dis-  
play graphs of different markets  
on the computer's screen, includ-  
ing data on currency prices, com-  
modity and energy futures, bonds  
and major stock indexes. The com-  
puter also permits a graphic dis-  
play of five hours of trading activi-  
ty in an individual market.

Metriplex has built its own radio  
network in 10 urban areas, includ-  
ing the Boston-Philadelphia corri-  
dor, Chicago, Los Angeles, Houston



and Dallas, and said it would soon  
expand to other locations.

The integrated system will cost  
\$300 a month, which includes a  
lease of the radio receiver and the  
palmtop computer and a subscrip-  
tion to the information service. The  
system also permits a variety of

other personal computer applica-  
tions, like retrieving news and  
sending personal messages.

Metriplex was founded in 1986 by  
Marc Stutman and his brother  
Steve after they graduated from  
the Massachusetts Institute of  
Technology. **JOHN MARKOFF**

### Apple-Tc

Continued From First Busin

gechika Takeuchi, presiden  
Japan, said today.

The combination of c  
text, video and sound is of  
multimedia. Today's linku  
ther example of what mar  
see as a trend — the conv-  
computers, consumer e  
communications and publ  
a big new industry. "As r  
grows, there will be grea  
among these separate. a  
Takeuchi said.

Indeed, the involvem  
and Time Warner in t  
nouncement raised specul  
a broader coalition of the  
companies that could bri  
all the skills needed fo  
industry.

The Apple-Toshiba c  
seems to be another link  
intriguing interconnect  
the four companies. In ad  
broad Apple-I.B.M. alli  
has an equity stake in Ti  
I.B.M., meanwhile, is ru  
forming a venture with T  
for computerized cable t  
I.B.M. and Toshiba alr  
joint venture to produc  
computer screens, and ju  
they acknowledged that  
discussing jointly devel  
type of computer memo

First License From Kale

Apple and Toshiba c  
companies to license th  
developed by Kaleida, w  
up to develop multime  
Kaleida has gotten off t  
and has been almost i  
pared with the other  
joint venture, Taligent,  
veloping a personal com  
ing system. Nearly a ye  
and I.B.M. announced  
alliance, they have yet  
chief executive and boar

### Apple-I.B.M. Venture Chief Is Named

By LAWRENCE M. FISHER

Special to The New York Times

SAN FRANCISCO, June 23 — Ap-  
ple Computer Inc. and I.B.M. con-  
firmed today that they had appointed  
A. Nathaniel Goldhaber, a venture  
capitalist and computer entrepreneur,  
as president and chief executive  
of their joint venture, Kaleida.

Kaleida will begin business at Ap-  
ple's headquarters in Cupertino,  
Calif., until a permanent location is  
found in the San Francisco area. The  
venture will develop multimedia  
computer systems, which can com-  
bine audio, video and data displays on  
one machine.

Apple and I.B.M. formed Kaleida  
last year and approached Mr. Gold-  
haber about two months ago, but have  
only now completed negotiations.  
"The primary issue was a meeting of  
the minds on the degree to which it  
was an entrepreneurial venture and  
the degree to which it was a joint  
venture," Mr. Goldhaber said in a

for the venture's success. He said he  
also sought to make sure that while  
the parent companies received  
"most-favored-nation status" on li-  
censing Kaleida's products that they  
would still have to pay licensing fees.

"The Kaleida team we've an-  
nounced today brings the right people  
to the job," James A. Cannavino, the  
International Business Machines  
Corporation's vice president and gen-  
eral manager for personal systems,  
said in a statement. "Nat Goldhaber  
and the board bring a wide spectrum  
of backgrounds and experiences to  
the company — just the right mix to  
lead the industry's march into the  
future," Mr. Cannavino added.

In addition to Mr. Goldhaber, Kalei-  
da's board is composed of an equal  
number of Apple and I.B.M. rep-  
resentatives, including: Robert L. Car-  
berry, assistant general manager for  
the I.B.M. Personal Systems line of  
business; Albert A. Eisenstat, secre-  
tary and executive vice president of  
Apple; Nubuo Mii, vice president and  
general manager for entry systems  
and I.B.M. and David C.

previously the founder and chief ex-  
ecutive of Tops, a computer network-  
ing company, which was acquired by  
Sun Microsystems Inc. in 1987 for \$20  
million.

Mr. Goldhaber became interested  
in meditation in the 1960's and spent  
several years working directly with  
Maharishi Mahesh Yogi, the former  
guru to the Beatles. In 1971, he estab-  
lished Maharishi International Uni-  
versity, now an accredited institution  
offering undergraduate and graduate  
degrees in Fairfield, Iowa.

From 1979 to 1982, Mr. Goldhaber  
worked in Pennsylvania politics, ini-  
tially as special assistant to the lieut-  
enant governor and later as the in-  
terim director of the state's energy  
agency. He left government to build a  
career in high technology and found-  
ed his first company, Centram Sys-  
tems Inc., which developed network-  
ing for early personal computers.

### Loan Auction Is Set

By Bloomberg Business News

WASHINGTON June 23 — The

### Apple-Sy

By LAWRENCE M.

Special to The New Y

SAN FRANCISCO  
Apple Computer Inc.  
mantec Corporatio  
that they had agre  
and market techno  
software develop



JUN 29

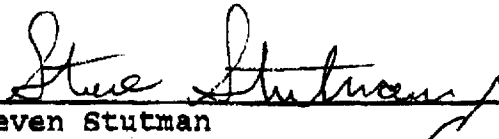
**DECLARATION**

I, Steven Stutman, do hereby declare that:

1. I am the President of Metriplex, Inc. My business address is 25 First Street, Cambridge, Massachusetts 02141.

2. I have reviewed the Reply Comments of Metriplex, Inc. dated June 29, 1992 in the above-captioned proceeding. The facts set forth therein are true and correct to the best of my knowledge, information and belief.

This declaration is made under penalty of perjury under the laws of the United States of America.

  
Steven Stutman

Dated: June 29, 1992

DCSEH639.DOC

CERTIFICATE OF SERVICE

I, Angelia T. Torres, hereby certify that on this 29th day of June, 1992, I have caused to be mailed via first-class, postage prepaid, a copy of the foregoing "Reply Comments of Metriplex, Inc." to the following:

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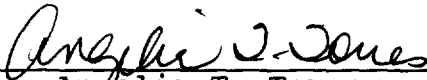
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